# o-LED Display/Controller

## General Description

The o-LED is a digital display/controller that provides temperature and humidity control, six fan speeds and shows fault conditions in a compact, yet easily readable display. The o-LED display/controller is designed to operate with Marvair® self contained models and split systems models. The o-LED display/controller (Organic Light Emitting Diode) is the latest in display technology with features not available in other, less advanced systems. OLED (Organic Light Emitting Diode) displays are brighter, thinner, lighter and use less power than older LCDs. In addition, OLED's offer wider viewing angles and higher contrast than LCDs.


***Display with Black Rondó Polymer Cover Plate***

The o-LED display/controller operates in conjunction with a PC board in the reverse cycle air conditioner. The board is corrosion protected for tropical and marine environments and built using the latest, state of the art technology. Flash programming allows for future software updates without replacing the board.

The o-LED display/controller is mounted on the wall of the room, like a typical thermostat. A built-in temperature sensor on the display shows both cabin and set point temperatures. When required, the sensor can be user calibrated to precisely match actual cabin temperature. (An optional remotely mounted temperature sensor can be field installed.) Temperature display is in either °F of °C. Non-volatile memory stores set points & selections indefinitely in the event of power loss. Both the board and the display are ground shielded for protection against static interference and RF noise. Microprocessors in both the board and display allow constant dialogue for rapid response to temperature changes and other information.

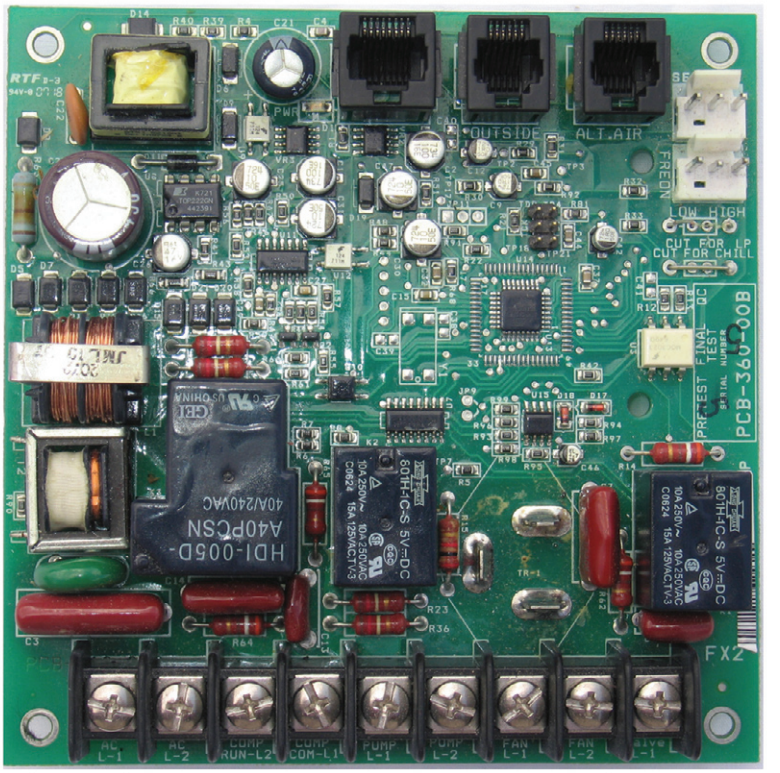
The o-LED display/controller is easily programmed to allow the user to customize the operation of the unit. Intuitive icons enable the viewer to see at a glance the operating status of the unit and the cabin temperature. A four-position touch pad provides quick and easy input of desired temperature and operational set points. If the display has not been touched for 3 minutes, the display dims and information will scroll across the bottom of the display. Touching the touch pad brings the display to bright.

The o-LED display/controller meets all applicable CE Directives, US Coast Guard and ABYC regulations or guidelines. Complete installation and programming instructions are in the Installation and Service manual for the self-contained and split system reverse cycle air conditioners.

## Alarms

In addition to controlling the temperature, the o-LED display/ controller also monitors the operation of the Marvair® unit and will display fault conditions. If a problem is detected, a text message will be displayed on the screen. Alarm notifications include:

- high or low refrigerant pressure,
- low AC voltage
- a failure or improperly installed internal or remote temperature sensor
- water pump (requires optional sensor)
- system over current.




***o-LED Display/Controller Board***

## Operation Modes

The o-LED display/controller controller has five modes of operation:

- Auto – Automatically switches the Marvair reverse cycle air conditioner from heating to cooling, depending upon the room temperature.
- Cool – The Marvair reverse cycle air conditioner will only operate in the cooling mode.
- Heat – The Marvair reverse cycle air conditioner will only operate in the heating mode.
- Fan Only – The fan will run in the Marvair unit, but the compressor will not operate.
- Dehumidification – To control humidity when the room is not occupied, the Moisture mode can be selected. In this mode the fan will run in low speed for 30 minutes. After 30 minutes, the compressor will start and run in the cooling for one hour or until the room temperature drops 2°F (1°C) every 6 hours. The unit will operate in the dehumidification mode as long as the air temperature is 70°F (20°C) or higher. Dehumidification mode is recommended when the boat is unoccupied for more than 48 hours during warm or hot seasons.

## Fan Speed Control

Fan speed may be controlled automatically by room temperature or manually. Options for the operation include:

- Manual – the fan runs at a constant speed and the speed is user selected,
- Auto - the fan will automatically change speeds, depending on the difference between the temperature in the cabin and the set point temperature. The fan will start on maximum speed. As the cabin temperature approaches the set point temperature, the fan will slow down to the minimum set speed.
- Continuous – the fan runs continuously, but the compressor cycles on & off to maintain the desired temperature.

## Ease of Installation

- The o-LED display/controller display connects to the Marvair unit with an Ethernet type cable and gold plated RJ45 jacks. Standard length of cable is 15 ft. (457 cm). Jacks are shielded and grounded.
- To compliment any décor, the display is designed to be installed in any of the hundreds of

the three module Vimar® or Gewiss® cover plates. (Note: cover plates must be ordered separately. Please refer to the Marvair® price list for a listing of our cover plates.)

- Convenient power terminals for input power and power to the pump.

## Internal Protection

- To prevent short cycling of the compressor and simultaneous starting of multiple Marvair units, the board has an internal time delay that allows the unit to resume operation only after an adjustable delay. Set from at factory for 15 seconds.
- Automatic defrost mode prevents excessive ice formation on the indoor coil.

## Options & Accessories (See price pages for complete availability.)

- Standard 15 ft. (457 cm) cable connects the display to the board. Longer lengths of cable are available.
- Wood, metal and polymer cover plates.
- Remote temperature sensor and 7 ft. (213cm) cable. Ten feet to 50 feet (305 cm to 1,524 cm) cable in 5 ft. (152 cm) increments is available.
- Outside air sensor.
- Water pump sentry sensor.

## Dimensions inches (mm)

- Display: 2-15/16”” wide and 1-11/16” high and 1-3/16” deep (74 mm x 43 mm x 30 mm)
- Panel Cut-out for display: 3-1/8 wide x 2” high (80 mm x 51 mm)

## Specifications

- Temperature Range: 55°F to 85°F (12.7°C to 29.4°C)
- Ambient temperature range displayed: 5°F to 150°F (-15°C to 65.5°C)
- Sensor accuracy: 2°F at 77°F (1.2°C at 25°C)
- Power: 115 VAC or 230 VAC, 50 Hz. or 60 Hz.
- Low voltage limit @115 VAC: 75 VAC
- Low voltage limit @230 VAC: 175 VAC
- Maximum line voltage: 250 VAC
- Frequency: 50 Hz or 60 Hz.
- Fan Output Max.: 6 amps
- Pump output max: ¼ HP at 115 VAC; ½ HP at 230 VAC
- Compressor output: 1 HP at 115 VAC; 2 HP at 230 VAC
- Minimum operating temperature: 0°F (-17.8°C)
- Maximum operating temperature: 180°F (82°C)
- Maximum RH: 99% non-condensing
- Maximum length of display cable: 75 ft. (22.86 m)
- Maximum length of the outside air sensor cable: 50 ft. (15.24 m)

## Notes

As part of the Marvair® continuous improvement program, specifications are subject to change without notice.

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